## REMARKS

Reconsideration of the above-identified application in view of the present amendment is respectfully requested.

The applicants acknowledge, with appreciation, the indication of the allowability of claims 2-6, and claim 7 as it would depend from claims 2-6. By the present amendment, claims 2-6 are rewritten in independent form and are also written to address the issue under 35 U.S.C. Section 112. Accordingly, claims 2-6 are allowable. Further, claims which depend from allowable 2-6 are also allowable.

Turning to the claim objections raised within the Office action, it is to be noted that claims 12-15 have been amended to remove an issue regarding dependency format. Accordingly, claims 12-15 are in proper form and should be considered.

Returning to the issue raised under 35 U.S.C. Section 112, it is to be noted that all of the claims 1-11 are amended to remove the issue concerning the claim device being a multi-mode device. Accordingly, it is respectfully requested that the entire rejection under 35 U.S.C. Section 112 be withdrawn.

Turning to the rejection of claims in view of the patent to Welch et al. (U.S. Patent No. 5,894,492), the rejection is respectfully traversed. It is to be noted that claim 1 recites, in pertinent part, that the second, transparent part guides radiation that is previously amplified by the first part. As such, the second part is located down stream of the first part. The Office action refers to several structural features within the Welch patent, and apparently asserts that any or all of these structural features satisfy the claimed limitation directed to the second transparent part.

First, the Office action refers to a single mode region shown by the Welch patent. Such a single mode region is a wave guide section that preceeds the flared gain section in each of the embodiments. For example, in the embodiment of Fig. 1 of the Welch patent, the single mode wave guide section is identified by reference numeral 17 and the flared gain section is identified by reference numeral 19. As can be appreciated from Fig. 1 of the Welch patent, the wave guide section 17 proceeds the flared gain section 19. As such, the Welch patent does not satisfy the language of the second part guiding radiation that is previously amplified with regard to the wave guide section 17.

The Office action also notes that an anti-reflective coating may be on the end of the flared gain section 19. However, a coating is not a guide for radiation. As such, the presence of the coating also does not satisfy the limitation of a part that guides radiation.

Lastly, the Office action identifies a portion of the Welch patent at column 8, lines 13-47. This portion of the Welch patent is directed to the embodiment shown in Fig. 32 of the Welch patent. The Office action states that the Welch patent discusses a transparent

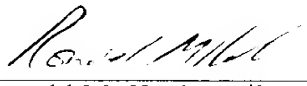
region next to a flared amplification region. With attention to Fig. 32 of the Welch patent, it is to be appreciated that the transparent region is identified by reference number 392 and the amplification region is identified by reference number 391. It is to be appreciated that the transparent region 392 is again upstream of the region 391. As such, Fig. 32 and the associated discussion at column 8 of the Welch patent does not satisfy the limitation with regard to the second transparent part guiding radiation that is previously amplified.

Accordingly, it is respectfully submitted that claim 1 and all of the claims dependent therefrom are allowable.

In view of the foregoing it is respectfully submitted that the above-identified application is in condition for allowance, and allowance of the above-identified application is respectfully requested.

If there are any additional fees required by the foregoing Amendment, please charge the same to our Deposit Account No. 16-0820, our Order No. 32433

Respectfully submitted,
Pearne & Gordon LLP

By: 
Ronald M. Kachmarik, Reg. No. 34512

526 Superior Avenue East, Suite 1200
Cleveland, Ohio 44114-1484
(216) 579-1700

August 22, 2002

Marked-up version showing changes:

Serial No.: 09/508,340
Filed: May 25, 2000
Title: WIDE AREA MULTI-MODE INTERFEROMETRIC AMPLIFIER WITH RECOMBINER
Our Docket No.: 32433

Claims 2-6, indicated at being allowable, were amended as follows:

2. (Amended) [The multi-mode coupler according to claim 1,] An interferometric coupler, comprising:

a first amplifying part (2), and

a second transparent part (4) to guide radiation previously amplified in the first part;

wherein the first and second parts are separated by a curved interface (6).

3. (Amended) [The multi-mode coupler according to claim 1,] An interferometric coupler, comprising:

a first amplifying part (2), and

a second transparent part (4) to guide radiation previously amplified in the first part;

wherein the first and second parts are separated by a V-shaped interface (6).

4. (Amended [The multi-mode coupler according to claim 1,] An interferometric coupler, comprising:

a first amplifying part (2), and

a second transparent part (4) to guide radiation previously amplified in the first part;

wherein the first and second parts are separated by a zigzag shaped interface (6).

5. (Amended) [The multi-mode coupler according to claim 1,] An interferometric coupler, comprising:

a first amplifying part (2), and

a second transparent part (4) to guide radiation previously amplified in the first part;

wherein the first and second parts are separated by an inclined interface (6) on a path of input (8) and output (10) rays.

6. (Amended) [The multi-mode coupler according to claim 1,] An interferometric coupler, comprising:

a first amplifying part (2), and

a second transparent part (4) to guide radiation previously amplified in the first part;

wherein the first and second parts are laid out to be approximately perpendicular to a path of an incident beam (8) and an output beam (10).

Claims 1, 7-15 were amended as follows:

1. (Amended) [A multi-mode] An interferometric coupler, comprising:
a first amplifying part (2), and
a second transparent part (4) to guide radiation previously amplified in the first part.

7. (Amended) The [multi-mode] coupler according to any of claims 1-6, wherein a signal mode guide is placed at an output of the second part.

8. (Amended) The [multi-mode] coupler according to claim 1, wherein the amplifier material is a structure embedded in an InP substrate.

9. (Amended) The [multi-mode] coupler according to claim 1, wherein the amplifying material is a laser material.

10. (Amended) The [multi-mode] coupler according to claim 9, wherein the laser material is an InGaAsP quaternary.

11. (Amended) The [multi-mode] coupler according to claim 1, wherein the amplifying material has quantic wells.

12. (Amended)An optical amplifier comprising:
an optical pre-amplifier, and
a coupler according to one of claims 1 to [11]6 and 8-11.

13. (Amended) Process for amplifying the power of a light source emitting radiation, consisting of placing a coupler according to any of claims 1 to [11] 6 and 8-11, in the path of the said radiation.

14. (Amended) Process to compensate for losses in an optical fiber consisting of placing a coupler according to any one of claims 1 to [11] 6 and 8-11, in the path of radiation passing through the optical fiber.

15. (Amended) Process for amplification of signals multiplexed in wave length, consisting of increasing the output power using a coupler according to one of claims 1 to [11] 6 and 8-11.